

**REMARKS/ARGUMENTS**

Applicant's counsel thanks the Examiner for his careful consideration of the present application. Herein, the claims have been amended for clarity and to eliminate improper multiple dependency. No new matter has been entered. Claim 32 has been canceled without prejudice.

Applicant acknowledges the restriction requirement has been made final on the ground that the common technical feature among the three groups has been held by the Examiner to not define over the state of the art. The non-elected claims 17-32 have been retained in this application. It is noted that claims 17-20 now all depend directly from claim 1. Accordingly, each expressly includes all the features recited in claim 1, and therefore now falls within Group I to be examined on the merits in this application. Present withdrawal of the restriction requirement as to claims 17-20 is respectfully requested. With regard to claims 21-31, while these do not depend directly from claim 1, it is pointed out that each incorporates all of the substantive features recited in claim 1. Therefore, on allowance of claim 1 it is respectfully requested that claims 21-31 be rejoined in the application and examined for patentability pursuant to the Office's rejoinder procedure. New claims 33-34 both depend directly or indirectly from claim 1, and hence are within Group I previously elected.

Claims 4-16 were objected-to under 37 CFR 1.75(c) as being in improper multiple-dependent form. The claims have been amended to overcome this objection.

Claims 2 and 3 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite based on "preferably" and "preferred" clauses. The claims have been amended to overcome this rejection. Claim 3 was also rejected under this section for lack of antecedent basis for "the greater part of the surface." Claim 3 has been amended to overcome this rejection.

Claims 1-3 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ramalingam (U.S. Patent No. 5,298,136). This rejection is respectfully traversed.

First, the Examiner states that "[t]he component B normal of the magnetic field goes to zero Gauss [in Ramalingam]," citing col. 8, lines 30-52. It is true that in Ramalingam the normal component of the magnetic field in that reference goes to zero. But it is not constantly zero, or any other constant across the target surface. To the contrary, in Ramalingam "the slope of the

flux field normal component curve [is] quite steep where the normal component of the magnetic field goes to zero, to insure a narrow path and tight control for the arc.” *See* col. 8, lines 38-42, within the passage cited by the Examiner. Ramalingam goes on to explain that, “[i]t has been determined that for preventing significant lateral motion, the gradient (slope) of the field normal to the cathode [target] surface should be 5 gauss/mm or greater on either side of the arc path desired, that is, the normal component of the magnetic field should have the desired gradient immediately above and below the working surface of the cathode [target].” Col. 8, lines 53-59. Thus, Ramalingam requires a steep slope (gradient) for the normal component of the magnetic field relative to the substrate surface. This is contrary to the basically constant value of the normal component,  $B^{\perp}$ , of the magnetic field recited in claim 1. For this reason, the section 102 rejection is respectfully believed to be overcome.

In addition, the Examiner stated that Ramalingam discloses two magnet systems (19) and (30) having opposite poles, citing Figs. 3-7 in Ramalingam. Office action, p. 4. Respectfully, Figs. 3-7 illustrate only different embodiments of the magnetic assembly 19. The coil 30 is not illustrated in these figures. Accordingly, there is no basis from which to presume that the magnetic assembly 19 and coil 30, when energized, will have opposite polarities. The reference is silent as to this feature, and hence does not anticipate it in the present claims. For this additional reason, the section 102 rejection of claim 1 is respectfully believed to be overcome.

Claims 4-16 each depend from claim 1 and recite additional features, in combination. It is respectfully submitted that each of these claims, not previously examined, is also allowable over the cited art.

Claims 17-20 have been amended to depend from claim 1, and are thus now properly rejoined and examined in this application as part of Group I previously elected.

Claims 21-31 each incorporates the substantive limitations of claim 1; *compare* independent claim 21 to independent claim 1. Accordingly, rejoinder of these claims is respectfully requested on allowance of Group I.

Claims 33-34 depend from claim 1.

In view of the foregoing arguments and amendments it is respectfully submitted that all claims are in condition for allowance. If it is determined that the application is not in condition

for allowance, the Examiner is invited to initiate a telephone interview with the undersigned to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. UNAX1-38300.

Respectfully submitted,  
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